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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
AMINI, JAVID A	
ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/524,698	TONISSON, ALAN	
	Examiner	Art Unit	
	Javid A. Amini	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2005 and 07 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *129,130,132-151,155-176 and 180-186* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

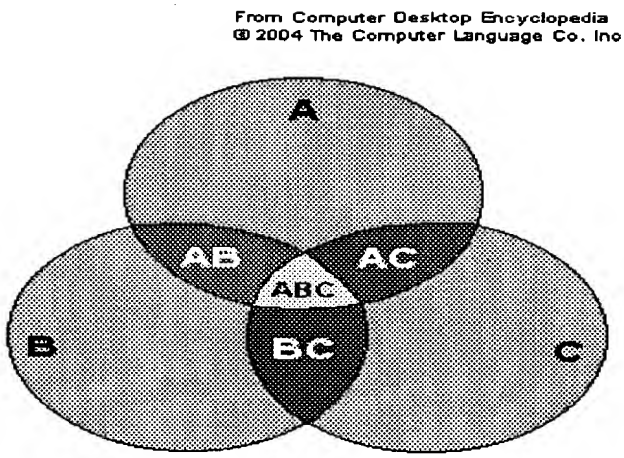
A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/23/05 has been entered.

Examiner's interpretation for the active, clip and effective regions based on Appendix B that Applicant submitted on 6/7/2005: the following figure of a Venn diagram that is well know graphic technique for visualizing set theory concepts using overlapping circles and shading to indicate intersection, union and complement. John Venn, introduced it in the late 1800s.

- The active region based on the Venn diagram can be interpreted as graphical elements A, B and C.
- The clip region based on the Venn diagram can be interpreted as graphical elements C, AC, BC and ABC or B, AB, BC and ABC or A, AC, AB and ABC.
- The effective region based on the Venn diagram can be interpreted as graphical element ABC.

The applied references covered similar concept:

- The reference Politis covered similar concept in figs. 1-4 and table 1 at col. 2.
- The reference Long et al. (submitted on 1449 dated 6/10/04) covered in figs. 21, 24, 28 and 34.



A Venn Diagram

Venn diagrams show how items relate to each other. Most of the "action" is in the overlapping areas.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 129, 130, 132-151, 155-176 and 180-186 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant in Appendix B, at right column shows that expression trees in figs. 5-7 change from active region through effective region. While Applicant claims in last two lines of independent claims 129, 133, 156, 158, 181 and 184 that " ..... the expression tree remains unchanged throughout the creation of the image." Applicant requires specifying what expression tree remains unchanged? And according to Appendix B: are the active and clip regions considered to be identical?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 129, 130, 132-151, 155-176 and 180-186 rejected under 35 U.S.C. 103(a) as being unpatentable over Politis US. Patent 5,745,121, and further in view of Long et al. (hereinafter refers as Long).

1. Claim 129.

A method of creating a pixel image, the pixel image to be formed by rendering and compositing a plurality of graphical objects according to an expression tree representing a compositing expression for the image, at least one of said graphical objects being non-rectangular, the expression tree comprising a plurality of nodes each representing one of the objects or a compositing operation for combining graphical object or results of other compositing operations, each of the graphical objects having a predetermined object outline forming a region comprising a plurality of pixels therein, said method comprising the steps of: Politis in abstract discloses that bounding box methods are used for locating (determining) active areas (region) of graphical elements (objects) from the nodes. The claim languages do not fulfill the method used, since the Applicant and the reference used the Venn diagram method. "Determining an active region for each of the graphical object nodes, the active regions for each particular graphical object node being equal to the region inside the predetermined object outline for the graphical object represented by the particular graphical object node". Politis in fig. 22 illustrates element

60 as a graphical object that corresponds to Applicant's definition of an active region. The element 60 considered as at least one active region outline. Obviously, the active region is wholly within the graphical object. Politis in figs. 1-3 illustrate two objects 1 and 4 and in fig. 3 area (region) 7 considered (determined) as the active region (intersection) of the two objects, "Determining an active region for each of the compositing operation nodes, said the active region for each particular compositing operation node being dependent on the active regions of each child node of the particular compositing operation node;" Politis in fig. 22 illustrates a graphical element 60 is immediately clipped against the borders of graphical element 61 to produce the final output 64, item 64 is an active region. A person skilled in the art could see the similarity in fig. 22 of the reference and the Applicant claim languages, "Determining a clip region for each of the compositing operation nodes, the clip region for each particular compositing operation node being equal to the intersection of the active region of the particular compositing operation node and the clip region of a parent compositing operation node of the particular compositing operation node;" Politis in fig. 22 illustrates the effective region (item 64), that is equal to the intersection of the clip region (item 61), and item 64 is considered as an active region. The compositing operations apply to items 60 and 61 (see figs. 1-4 for more detail explanations) and final step is the graphical image on item 64. Politis in fig. 22 illustrates that the graphical element 64 (i.e. an effective region) is generally a proper subset of the clipping region, in this case, it covers a whole set of clipping region. "Determining an effective region for each of the compositing operation nodes, the effective region for each particular compositing operation node being equal to the intersection of the clip region of the particular

compositing operation node and the active regions of the child nodes of the particular compositing operation node; at least one of said effective region determined for one of said compositing operation nodes being a proper subset of the clip region for said one compositing operation node; Applicant does not specify the boundaries of an active region, a clip region and an effective region. Politis does not illustrate the compositing expression for rendering as Applicant illustrated in Appendix B or figs. 5-7. However, Applicant in Appendix B, at left column shows that the active region and the clip region are similar. "applying the compositing operations represented by each operation nodes to the pixels falling wholly within the corresponding effective region for the operation node to create the image, wherein pixels falling outside the effective regions determined for the expression tree remain uncomposited in creating the image and the structure of the expression tree remains unchanged throughout the creation of the image". Again Applicant in Appendix B, at right column shows that expression trees in figs. 5-7 change from active region through effective region. Applicant requires specifying what expression tree remains unchanged? Politis in col. 3, lines 54-67 teaches also a method of optimizing an expression tree for the compiling of a series of statements in a graphical programming language into a series of lower level instructions, method comprising the steps of: determining candidate nodes of said expression tree utilizing a compositing operator and which are to be composited with opaque objects, storing a list of outlines of said opaque objects, determining a corresponding clipping operation for at least one of compositing operators when used in conjunction with a corresponding opaque object, altering said expression tree so as to define a clipping operation between outline of opaque object and the graphical element represented by candidate nodes, such

that clipping operation produces substantially the same result as that produced by compositing two graphical elements together utilizing compositing operator. Examiner's comment: If a person skill in art does not run the method of optimizing, the expression tree remains unchanged, see fig. 28 number 80. Longs' invention introduces a method; computer readable media for rendering at least one graphic object described by at least one edge into a raster pixel image having a plurality of scan lines and a plurality of pixel locations on each scan line. Long in fig. 19 illustrates an unchanged structure of an expression tree, that can be interpreted as active region (Op2), clip region (Op1) and effective region as an over operation. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute applicant 's described structure of the expression tree by modifying Longs' expression tree in fig. 19 into Politis's programming language that has an advantageous for all combinations of graphical elements using graphical operators for rendering of a specific graphical element. A user can take significant advantages e.g. there are no frame store or line store, there is no over painting, and the object priorities are dealt with in constant order time, rather than order N time (where N is the number of priorities).

2. Claim 130.

Politis in Figs. 30-33 illustrates graphical elements and their corresponding bounding

3. Claim 132.

Politis illustrates in Fig. 3-4.

4. Claim 133.

See rejection of claim 129 for the rejection of this claim.

5. Claim 134.

Politis in Fig. 1, discloses an overlap portion 7 is defined to be a combination of the two elements 1,4 and takes a color value which is dependent on the compositing operators combining the two elements to create a more complex image 6.

6. Claim 135.

Politis illustrates in Figs. 28-29 a push operation is added to the table.

7. Claim 136.

Politis discloses the corresponding compositing expression further region is complex in see (col. 20, lines 4-64).

8. Claim 137.

Politis discloses in (col. 15, lines 64-67 and col. 16, lines 1-5) and equation 1.

9. Claim 138.

Politis in Fig. 4 illustrates the complex left operand by "in".

10. Claim 139.

Politis illustrates in Fig. 23 that pop operation is added to the table.

11. Claim 140.

Politis discloses in Figs. 30-33 and in (col. 12, lines 21-45) The process of bounding box minimization is further designed to find the smallest area portion of each graphical element that is needed to make up the final image. Bounding box minimization extends to finding the smallest area of each internal node of the expression syntax tree to flyer minimizes the number of pixels to be composited.

12. Claim 141.

Politis in Fig. 4 illustrates the complex left operand by "in".

13. Claim 142.

Politis discloses in (col. 10, lines 45-68) pop the graphical element currently on the top of the stack and use it as the operand to the instruction.

14. Claim 143.

Politis in Fig. 4 illustrates the complex left operand by "in".

15. Claim 144.

Politis in Fig. 4 illustrates it.

16. Claim 145.

Politis discloses in Fig. 24 the clip operation added to table.

17. Claim 146.

Politis in Fig. 4 illustrates the complex left operand by "in".

18. Claim 147.

Politis discloses in Fig. 24 the clip operation added to table.

19. Claim 148.

Politis in Fig. 4 illustrates it.

20. Claim 149.

Politis discloses in Fig. 24 the clip operation added to table.

21. Claim 150.

Politis illustrates in Figs. 28-29 a push operation is added to the table.

22. Claim 151.

Politis discloses in Figs. 30-33 and in (col. 12, lines 21-45) The process of bounding box minimization is further designed to find the smallest area portion of each graphical element that is needed to make up the final image. Bounding box

minimization extends to finding the smallest area of each internal node of the expression syntax tree to flyer minimizes the number of pixels to be composited.

23. Claim 155.

Politis illustrates in Fig. 3-4.

24. Claim 156.

See rejection of claim 129.

25. Claim 157.

Politis in figs. 17 and 18 illustrates the limitation of the claim languages.

26. Claim 158.

See rejection of claim 129,

27. Claim 159.

A method according to claim 158, wherein each of the clip regions is dependent upon an active region of an operand of a particular compositing operation. Politis in Fig. 1, discloses an overlap portion 7 is defined to be a combination of the two elements 1,4 and takes a color value which is dependent on the compositing operators combining the two elements to create a more complex image 6.

28. Claim 160.

Politis illustrates in Figs. 28-29 a push operation is added to the table.

29. Claim 161.

Politis discloses the corresponding compositing expression further region is complex in (col. 20, lines 4-64).

30. Claim 162.

Politis discloses in Fig. 24 the clip operation added to table.

31. Claim 163.

A method according to claim 158, wherein an active region is determined on the basis that the corresponding compositing operation has a complex left operand. Politis discloses in (col. 15, lines 64-67 and col. 16, lines 1-5) and equation 1. And also see Figs. 3-4.

32. Claim 164.

Politis illustrates in Fig. 23 that pop operation is added to the table.

33. Claim 165.

Politis discloses in Figs. 30-33 and in (col. 12, lines 21-45) The process of bounding box minimization is further designed to find the smallest area portion of each graphical element that is needed to make up the final image. Bounding box minimization extends to finding the smallest area of each internal node of the expression syntax tree to flyer minimizes the number of pixels to be composited.

34. Claim 166.

Politis discloses in (col. 10, lines 45-68) pop the graphical element currently on the top of the stack and use it as the operand to the instruction. And also see Figs. 3-4.

35. Claim 167.

Politis discloses in (col. 10, lines 45-68) pop the graphical element currently on the top of the stack and use it as the operand to the instruction.

36. Claim 168.

Politis in Figs. 3-4 illustrates it.

37. Claim 169.

Politis in Figs. 3-4 illustrates it.

38. Claim 170.

Politis discloses in Fig. 24 the clip operation added to table.

39. Claim 171.

Politis discloses in (col. 8 lines 34-42) that an "infix" or "expression based" approach where primitive graphical elements may be either operated on directly or stored in variables.

40. Claim 172.

Politis illustrates in Figs. 28-29 a push operation is added to the table.

41. Claim 173.

Politis in Figs. 3-4 illustrates it

42. Claim 174.

Politis discloses in Fig. 24 the clip operation added to table.

43. Claim 175.

Politis illustrates in Figs. 28-29 a push operation is added to the table.

44. Claim 176.

Politis discloses in Figs. 30-33 and in (col. 12, lines 21-45) The process of bounding box minimization is further designed to find the smallest area portion of each graphical element that is needed to make up the final image. Bounding box minimization extends to finding the smallest area of each internal node of the expression syntax tree to flyer minimizes the number of pixels to be composited.

45. Claim 180.

Politis illustrates in Fig. 3-4.

46. Claim 181.

See rejection of claim 129,

47. Claim 182.

Politis illustrates in Fig. 23, that a first method of converting an expression tree to corresponding "intermediate level" instructions. Politis illustrates in Figs. 28-29 a push operation is added to the

48. Claim 183.

Politis discloses in (col. 9, lines 18-21) for each scan line, the expression tree for the output variable is traversed and rendering of each graphical element and compositing operators is performed as relevant to that scan line.

49. Claim 184.

See rejection of claim 129,

50. Claim 185.

The computer readable medium according to claim 184, said medium further storing: code for mapping the effective regions and the compositing operations into a compositing table comprising a plurality of levels, wherein each the level represents at least one compositing operation for rendering an object or parts thereof or represents an outline for clipping at least one other level; and Y code for compositing the image using the compositing table. Politis illustrates in Fig. 23, that a first method of converting an expression tree to corresponding "intermediate level" instructions. Politis illustrates in Figs. 28-29 a push operation is added to the table

51. Claim 186.

The computer readable medium according to claim 184, wherein the compositing operations include compositing and stack operations. Politis discloses in (col. 9, lines 18-21) for each scan line, the expression tree for the output variable is traversed and rendering of each graphical element and compositing operators is performed as relevant to that scan line.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javid A Amini
Examiner
Art Unit 2672

JEFFREY A. BRIER
PRIMARY EXAMINER

Javid Amini